BUREAU OF CONSUMER PROTECTION
Consumer Facts
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Stay active and safe

As we grow older we tend to become less active. This is often a slow process that leaves us overweight and out of shape before we know it. How can we stop this process? The first step toward a more active, healthy lifestyle is exercise.

Why is exercise important?

A safe, effective exercise program can help reduce some of the aches and pains that are a part of getting older. It can also slow down the progression of conditions associated with aging. For example:

- Keeping active helps you maintain your ability to walk, which is especially important to maintain your independence.
- Exercise can improve and maintain balance and posture, reducing your risk of falling.
- Exercise can improve your strength, endurance and flexibility. It promotes bone strength. Repeated mild stress on our bones helps them maintain their calcium content and structure.
- Exercise also helps to maintain muscle mass and tone. After age 30 we start losing muscle mass. Exercise stimulates muscle growth and slows this process. Muscle also uses more calories than fat tissue. As we increase or maintain our muscle mass we create a better 'metabolic machine' for burning calories.
- Exercise is also important for joint health. Repetitive motion promotes the body's natural process of lubricating joint surfaces. This may help lessen joint stiffness and achiness.
- The stronger your muscles are, the more weight and stress they can handle. Stronger muscles protect your joints. As we age our joints begin to gradually weaken from typical wear and tear. Stronger muscles take weight and stress away from your joints.

A balanced exercise program

An effective exercise program is made up of several components: aerobic conditioning, flexibility and agility exercises, strength training, and relaxation techniques. Before starting an exercise program be sure to talk with your doctor, especially if you have a heart problem or history of heart disease.

Aerobic conditioning improves the health of your heart and lungs. It also helps to manage your weight. With aerobic exercise, you move continuously to increase your heart rate and keep it elevated for a sustained period of time. How long you can exercise aerobically will depend on your fitness level. A general guideline is to work up to 20 to 30 minutes a day, three to four days a week.

Choose activities that you enjoy and can do regularly. Common aerobic activities include walking, jogging, bicycling, swimming, low impact aerobic classes, water exercise classes, and dancing. Many people prefer using machines, such as a rowing machine, stair climber, treadmill, elliptical trainer, or stationary bicycle.

If you have arthritis, consider low- to no-impact activities such as water aerobics, swimming, elliptical trainer, Nordic track, stationary bicycle, or rowing machine.

Flexibility and agility exercises are important for increasing your body's range of motion. They also help lessen muscle tension and soreness, and reduce your risk of injury. We often overlook stretching and range of motion exercises, but they are very important in maintaining overall fitness.

Stretching programs and activities like yoga or tai chi are good examples of flexibility and agility training. Balance training is important and may help prevent falls and, therefore, fall-related fractures.

Tai chi is a program of exercises, breathing, and movements based on ancient Chinese practices.

Seniors who practice tai chi or yoga have fewer falls and less fear of falling. These classes can also increase self-confidence and improve body balance.

Strength training improves muscular capacity and bone density. Stronger muscles and bones make it easier to do everyday activities like carry shopping bags or do yard work.

The most common strength training methods are working with free weights, resistance rubber bands or weight machines. It is very important to avoid strength imbalances by working all the major muscle groups, including the muscles in your arms, chest, back, stomach, hips, and legs.

If you have osteoporosis or loss of bone calcium, you will need to talk with a doctor before beginning a strength training program.

Relaxation techniques are important to include in your overall fitness program. Relaxation helps maintain overall cardiac fitness, lower blood pressure, and may even improve your immune system.

Many yoga classes include relaxation techniques like deep (diaphragmatic breathing) and simple meditation.

Relaxation techniques can be as simple as sitting with your eyes closed and concentrating on controlled deep breathing.

Weight bearing exercise

If you want strong bones, you have to use them! Everyone needs lifelong weight bearing exercise to build and maintain healthy bones. Girls and young women especially should concentrate on building strong bones now to cut their risk of osteoporosis later in life.

A bone thinning disease that can lead to devastating fractures, osteoporosis afflicts many women after menopause and some men in older age. Osteoporosis is responsible for almost all the hip fractures in older people.

The disease is largely preventable if you get enough weight bearing exercise when you're young, stay active and continue other healthy habits as you age.

Bone mass and females

The maximum size and density of your bones (peak bone mass) is determined by genetics but you need weight bearing exercise to reach top strength. The best time to build bone density is during years of rapid growth.

- Weight bearing exercise during the teen years is ideal.
- Bones continue to grow during the 20s and sometimes into the early 30s. (Bone loss normally begins in the mid-30s.)
- Smoking and excessive alcohol use can decrease bone mass.

Osteoporosis prevention is a special concern for females for a number of reasons:

- Women generally reach peak bone mass at an earlier age than men.
- Peak bone mass tends to be lower in women than in men.
- Pregnancy and breast feeding can lower bone mass.
- Women undergo rapid bone loss after menopause when levels of the bone strengthening hormone estrogen drop dramatically. (The removal of ovaries will have the same effect on bone mass.)
- Doing regular weight bearing exercise for the rest of your life can help maintain your bone strength.

What is "weight bearing"?

Weight bearing describes any activity you do on your feet that works your bones and muscles against gravity. Bone is living tissue that constantly breaks down and reforms. When you do regular weight bearing exercise, your bone adapts to the impact of weight and pull of muscle by building more cells and becoming stronger.

Some activities recommended to build strong bones include:

- Brisk walking, jogging, and hiking.
- Yard work such as pushing a lawnmower and heavy gardening.
- Team sports, such as soccer, baseball, and basketball.
- Dancing, step aerobics, and stair climbing.
- Tennis and other racquet sports.
- Skiing, skating, karate, and bowling.
- Weight training with free weights or machines.

Although they are excellent cardiovascular exercise choices, swimming and bicycling are not weight bearing activities, so are not as effective as the above activities in adding bone mass. If musculoskeletal conditions prevent weight bearing exercise, then swimming and cycling are good alternatives. They do have some bone-building capacity.

You should exercise for at least 30 minutes a day, four or more days a week. Besides improving bone

strength, regular exercise also increases muscle strength, improves coordination and balance, and leads to better overall health. To sustain the bone strengthening benefit of weight bearing activity, you must increase the intensity, duration and amount of stress applied to bone over time.

Additional information

In addition to doing weight bearing exercise, to protect yourself from osteoporosis, you should also:

- Eat a diet rich in calcium and vitamin D. This may include dairy products (i.e., milk, yogurt and cheese), vegetables (i.e., spinach and broccoli) and fish (i.e., sardines). Because it is difficult to meet the daily requirement through diet alone, calcium and vitamin D supplements are recommended.
- Practice a healthy lifestyle with no smoking or excessive drinking.
- See your doctor for a bone density test and/or medications as necessary.

Premenopausal women who exercise too much or suffer from the eating disorder anorexia nervosa can also develop long term problems with weak bones if low body weight stops normal menstrual periods (amenorrhea). If this happens during rapid growth years, you could lose bone mass at a time when your body needs to be building it. See your doctor right away for diagnosis and treatment.

Exercise Safely

When people start to exercise, they often push their bodies too far—the more exercise done, the higher the risk of overuse and traumatic injuries. Moderation is the key to safe exercise. Care should be taken not to try to do too much too soon. Safe exercise programs should always start slowly and gradually build up speed, force, and intensity.

- Use common sense and don't exercise when you have a cough, fever, cold or flu. But don't let a temporary illness put a permanent stop to your exercising. Resume your activities as soon as you can.
- After an illness, start your exercise program at the beginning again. Do not immediately take up where you left off. Your body needs time to recover and rebuild. Consult a physician even if your illness is minor.
- Be alert to air quality if you work out at a gymnasium, especially if you have a lung condition such as asthma or bronchitis. Exercise at less-crowded times during the cold and flu season. Exercise outdoors whenever weather permits.
- If you live near an enclosed shopping mall, consider becoming a mall walker. Many malls open before the stores do and allow people to walk around. This allows you to exercise even if the weather is bad.

Safe exercise guidelines

- **Use proper equipment.** Replace your athletic shoes as they wear out. Wear comfortable, loose-fitting clothes that let you move freely and are light enough to release body heat. When exercising in cold weather, dress in removable layers.
- **Warm up.** Warm up to prepare to exercise, even before stretching. Run in place for a few minutes, breathe slowly and deeply, or gently rehearse the motions of the exercise to follow. Warming up increases your heart and blood flow rates and loosens up other muscles, tendons, ligaments, and joints.
- **Stretch.** Begin stretches slowly and carefully until reaching a point of muscle tension. Hold each stretch for 10 to 20 seconds, and then slowly and carefully release it. Inhale before each stretch and exhale as you release. Do each stretch only once. Never stretch to the point of pain, always maintain control, and never bounce on a muscle that is fully stretched.
- **Take your time.** Move through the full range of motion with each repetition. Breathe regularly to help lower your blood pressure and increase blood supply to the brain.
- **Drink water.** Drink enough water to prevent dehydration, heat exhaustion, and heat stroke. Drink 1 pint of water 15 minutes before you start exercising and another pint after you cool down. Have a drink of water every 20 minutes or so while you exercise.
- **Cool down.** Make cooling down the final phase of your exercise routine. It should take twice as long as your warm up. Slow your motions and lessen the intensity of your movements for at least 10 minutes before you stop completely. This phase of a safe exercise program should conclude your skin is dry and you have cooled down.
- **Rest.** Schedule regular days off from exercise and rest when tired. Fatigue, soreness, and pain are good reasons to not exercise.

Overuse Injuries

Exercise puts repetitive stress on many parts of the body such as muscles, tendons, bursae, cartilage, bones, and nerves. Repetitive stress

can lead to microtraumas-minor injuries that would typically heal with enough rest. When you exercise too frequently, your body never has a chance to repair microtraumas. As microtraumas build up over time, you become prone to overuse injuries, such as:

- Damage to elbow cartilage in athletes who throw.
- Heel bursitis and stress fractures in runners.
- Nerve entrapment in rowers.
- Kneecap (patellar) tendinitis in volleyball players.

Traumatic injuries

To build strength and endurance from exercise, you must slowly and gradually push your body beyond its limits. When you push too far too fast, the body is prone to traumatic injuries such as sprains and fractures. Many seasonal sports injuries happen when athletes rush their reconditioning and do too much too soon with bones, joints, tendons, ligaments, and muscles they ignored in the off-season.

Risk factors

In general, injuries during exercise are more likely if:

- The duration, intensity or frequency of an exercise is excessive or rapidly increasing.
- The terrain or weather conditions are extreme or irregular.
- Incorrect equipment (including athletic shoes) is used.
- You have been injured in the past.
- You smoke, drink, or have led a sedentary lifestyle.
- You have low aerobic or muscle endurance, low or imbalanced strength, or abnormal or imbalanced flexibility.
- You have high arches in your feet, bowed legs, or legs of different lengths.

First aid

Accidents can happen despite safe exercise precautions. If you pull a muscle (or worse) during exercise, apply a protective device such as a sling, splint, or brace. Then use the first aid standard for musculoskeletal injures: rest, ice, compression, and elevation (RICE):

- Rest the injury.
- Ice it to lessen swelling, bleeding, and inflammation.
- Apply a compression bandage to limit swelling.
- Elevate the injury above heart level to reduce swelling.
- You may use nonsteroidal anti-inflammatory medications such as ibuprofen for pain. See your doctor if you have severe pain, cannot move the injured body part, or if symptoms persist.

Seven tips to prevent injury

When you exercise, orthopedic surgeons and CPSC recommend that you follow these tips:

1. **Always wear appropriate safety gear.** If YOU bike, always wear a bike helmet. Wear the appropriate shoes for each sport.
2. **Warm-up before you exercise.** That could be a moderate activity such as walking at your normal pace, while emphasizing your arm movements.
3. **Exercise for at least 30 minutes a day.** You can break this into shorter periods of 10 or 15 minutes during the day.
4. **Follow the 10 percent rule.** Never increase your program (i.e., walking or running distance or amount of weight lifted) more than 10 percent a week.
5. **Try not to do the exact same routine two days in a row.** Walk, swim, play tennis, or lift weights. This works different muscles and keeps exercise more interesting.
6. When working out with exercise equipment, **read instructions carefully** and, if needed, ask someone qualified to help you. Check treadmills or other exercise equipment to be sure they are in good working order. If you are new to weight training, make sure you get proper information before you begin.
7. **Stop exercising if you experience severe pain or swelling.** Discomfort that persists should always be evaluated.

By getting regular exercise—and doing it safely—you can enjoy a healthier life.

For more information

For more information, or to file a complaint, contact the Bureau of Consumer Protection at:

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(Information provided by the American Academy of Orthopedic Surgeons and the U.S. Consumer Product Safety Commission.)

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